APPENDIX B
HEAP CHEMICAL ANALYSES

NDEP METEORIC WATER MOBILITY TEST
`ABORATORY NUMBER
'VOICE NUMBER

Sample I.D.: Arimetco Clay 8-26-91

32 ELEMENT ANALYSIS

Sample I.D.:

Element	ppm	Element	ppm	Element	ppm
Aluminum	0.536	Gallium	0.404	Scandium	0.013
Antimony	-0.025	Iron	0.318	Selenium	0.240
Arsenic	0.081	Lead	0.088	Silver	-0.025
Barium	0.029	Lithium	0.369	Sodium	655.7
Beryllium	0.002	Magnesium	129.0	Strontium	4.531
Bismuth	0.097	Manganese	0.279	Thallium	-0.040
Cadmium	-0.005	Mercury	-0.001	Tin	0.453
Calcium	752.9	Molybdenum	0.370	Titanium	0.005
Chromium	0.042	Nickel	0.056	Vanadium	0.058
Cobalt	0.033	Phosphorus	0.255	Zinc	0.053
Copper	0.177	Potassium	21.39		

EPA METHOD: 200 SERIES

espectfully Submitted

Wayne Colwell

ayne M. Colwell
eneral Manager

NDEP METEORIC WATER MOBILITY TEST
ABORATORY NUMBER
VOICE NUMBER

Sample I.D.: Arimetco Clay 8-26-91

5006 mls
2100 mls
2906 mls

TEST PROCEDURE

Material, all passing 2 inches identified by the client as Arimetco Clay w air dried and split to obtain a test sample of 5,004.0 grams. The sample w placed in an 8 inch column for extraction by an artificial lixiviant of p 5.62 made from reagent grade water and nitric acid. A solution applicati rate of .41 liters per hour was used to circulate 5,006 milliliters of t lixiviant through the material. Solution recovery at 24 hours was 58% wi a saturation volume of 2,100 ml's. The recovered solution was preserved f testing as required for each type of analysis to be conducted.

A separate split of the test material was wet screened to obtain t percentage of material passing a 200 mesh U.S. standard screen. Test resul are tabulated as follows:

Sample: Arimetco Clay
Test Sample Weight: 5,004.0 grams
Solution Volume applied: 10,012 milliliters
Initial pH: 5.62 Lixiviant
Final pH: 7.49 Effluent
Leach Time: 24 hours   Leach Method: Column
Saturation Volume: 2,100 milliliters
Percent material passing 200 mesh: 12.8%

			METHOD
Alkalinity:			EPA 310.0
Bicarbonate	0.0	mg/l	
Total	3.20	mg/l	
Sulfate:	2,850	mg/l	EPA 375.4
Chloride:	202.43	mg/l	EPA 325.3
Nitrate:	44	mg/l	EPA 350.3
Fluoride:	2.70	mg/l	EPA 340.2
TDS:	4,197	mg/l	EPA 160.2
W.A.D. Cyanide:	-0.02	mg/l	ASTM D2036-89

)EP METEORIC WATER MOBILITY TEST
.ABORATORY NUMBER G066-07L
:NVOICE NUMBER G0214L
)ATE March 27, 1992
'age 2 of 3
Sample I.D.: Waste Rock Characterization W-3

'EST PROCEDURE

:aterial, all passing 2 inches identified by the client as Waste Rock W-3 :arch '92 was air dried and split to obtain a test sample of 5,116.6 grams. he sample was placed in an 8 inch column for extraction by an artificial ixiviant of pH 6.12 made from reagent grade water and nitric acid. A olution application rate of .48 liters per hour was used to circulate 11,580 illiliters of the lixiviant through the material. Solution recovery at 24 ours was 96.4% with a saturation volume of 210 ml's. The recovered olution was preserved for testing as required for each type of analysis to e conducted.

separate split of the test material was wet screened to obtain the ercentage of material passing a 200 mesh U.S. standard screen. Test results re tabulated as follows:

-mple: Waste Rock Charaterization W-3
.st Sample Weight: 5,116.6 grams
olution Volume applied: 11,580 milliliters
nitial pH: 6.12 Lixiviant
inal pH: 5.87 Effluent
each Time: 24 hours Leach Method: Column
aturation Volume: 210 milliliters
ercent material passing 200 mesh: 8.92%

			METHOD
lkalinity:			EPA 310.0
Bicarbonate		mg/l	
Total	17	mg/l	
ılfate:	908	mg/l	EPA 375.4
ıloride:	13.75	mg/l	EPA 325.3
trate:	4.55*	mg/l	EPA 350.3
uoride:	2.50*	mg/l	EPA 340.2
lS:	1,522	mg/l	EPA 160.2
A.D. Cyanide:	N/A	mg/l	ASTM D2036-89

* Indicates analytical constituent analyzed by another laboratory.

)EP METEORIC WATER MOBILITY TEST
LABORATORY NUMBER G066-07L
INVOICE NUMBER G0214L
)ATE March 27, 1992

Sample I.D.: Waste Rock Characterization W-3

AMENDED PAGE

32 ELEMENT ANALYSIS

Sample I.D.: Waste Rock Characterization W-3

Element	ppm	Element	ppm	Element	ppm
Aluminum	0.069	Gallium	-0.050	Scandium	-0.050
Antimony	-0.050*	Iron	0.143	Selenium	-0.005
Arsenic	-0.05*	Lead	-0.025	Silver	-0.05*
Barium	0.099	Lithium	0.24	Sodium	14.36
Beryllium	0.004	Magnesium	31.65	Strontium	1.171
Bismuth	-0.025	Manganese	1.095	Thallium	-0.040
Cadmium	-0.005	Mercury	0.00294*	Tin	-0.080
Calcium	246*	Molybdenum	0.010	Titanium	0.038
Chromium	0.109	Nickel	0.085	Vanadium	0.008
Cobalt	0.123	Phosphorus	-0.100	Zinc	0.607
Copper	19.41	Potassium	7.400		

EPA METHOD: 200 SERIES
*Indicates analytical constituent analyzed by another laboratory.

Respectfully Submitted

Wayne Colwell

Wayne M. Colwell
General Manager

MINERALS PROCESSING AND ENVIRONMENTAL LABORATORIES, INC.

STATIC TEST

FOR

Arimetco, Inc./Copper Tek Corporation
102 Burch Drive
Yerington, NV 89447

ATTN: Bill Sifford

Laboratory Number G066-07A
Invoice Number G0214A

February 4, 1993

FINAL REPORT

FINAL REPORT

Sample I.D.: Waste Rock Characterization W-3		
		Units of Measure
Total Sulfur (as S)	0.19	%
Pyritic Sulfur (as S)	0.05	%
Sulfur, Unidentified (as S)	-0.01	%
Sulfate, Sulfur (%)	0.18	%
APP/Peroxide (as S)	-0.01	%
Total Sulfur	5.9	(Tons CaC03/Kt)
Pyritic Sulfur	1.6	(Tons CaC03/Kt)
APP/Peroxide	-0.3	(Tons CaC03/Kt)
Acid Neutralizing Potential	6.9	(Tons CaC03/Kt)

Wayne M. Colwell
General Manager

MINERALS PROCESSING AND ENVIRONMENTAL LABORATORIES, INC.

NDEP
METEORIC MOBILITY TEST

FOR

Arimetco Inc./Copper Tex Corporation
102 Burch Drive
Yerington, NV 89447

Attn: Mr. Bill Sifford

LABORATORY NUMBER F228-02
INVOICE NUMBER F0783

September 18, 1991

SAMPLE I.D.: VLT

SUMMARY

24 hour column leach test was conducted on 4989.9 grams of material
ntified as VLT. Reagent grade water adjusted to synthetic meteoric water
1 nitric acid at pH 5.70 was circulated through the column at a rate of
liters per hour. The resulting effluent was collected and analyzed for
ling pH, Alkalinity, Sulfate, Nitrate, Chloride, Fluoride, W.A.D. Cyanide,

and 32 inorganic elements.

EP METEORIC WATER MOBILITY TEST
BORATORY NUMBER F228-02
VOICE NUMBER F0783
ge 2 of 3
MPLE I.D.: VLT

ST PROCEDURE

erial, all passing 2 inches identified by the client as VLT was air dried
l split to obtain a test sample of 4989.8 grams. The sample was placed in
8 inch column for extraction by an artificial lixiviant of pH 5.70
le from reagent grade water and nitric acid. A solution application rate
.41 liters per hour was used to circulate 10,000 milliliters of the
iviant through the material. Solution recovery at 24 hours was 90% with
saturation volume of 500 ml's. The recovered solution was preserved for
iting as required for each type of analysis to be conducted.

separate split of the test material was wet screened to obtain the
centage of material passing a 200 mesh U.S. standard screen. Test results
tabulated as follows:

le: VLT
t Sample Weight: 4989.9 grams
ution Volume applied: 10,000 milliliters
tial pH: 5.70 Lixiviant
al pH: 3.58 Effluent
ch Time: 24 hours Leach Method: Column
uration Volume: 500 milliliters
cent material passing 200 mesh: 6.6%

			METHOD
alinity:			EPA 310.0
icarbonate	0	mg/l	
otal	0	mg/l	
fate:	1970	mg/l	EPA 375.4
oride:	3.59	mg/l	EPA 325.3
rate:	-0.5	mg/l	EPA 350.3
oride:	-0.05	mg/l	EPA 340.2
:	2,533	mg/l	EPA 160.2
.D. Cyanide:	-0.02	mg/l	ASTM D2036-89

EP METEORIC WATER MOBILITY TEST
BORATORY NUMBER
VOICE NUMBER
ge 3 of 3
VGT SAMPLE

ement	mg/l	Element	mg/l	Element	mg/l
uminum	11.0	Gallium	-0.050	Scandium	0.008
timony	-0.025	Iron	0.414	Selenium	-0.005
senic	0.033	Lead	0.076	Silver	-0.025
rium	0.053	Lithium	0.017	Sodium	9.61
ryllium	0.002	Magnesium	441.8	Strontium	1.97
smuth	48.0	Manganese	0.780	Thallium	-0.040
dmium	-0.005	Mercury	-0.001	Tin	-0.080
lcium	721	Molybdenum	0.083	Titanium	-0.050
romium	-0.025	Nickel	0.118	Vanadium	-0.008
balt	0.115	Phosphorus	0.030	Zinc	0.623
pper	408	Potassium	15.4		

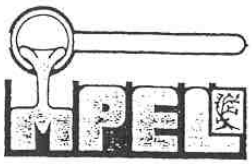
A METHOD: 200 SERIES

ote: Static Test on this sample to follow on Laboratory Number F228-02A, Invoice Number F0783A.

spectfully Submitted

Wayne Colwell

yne M. Colwell
ieral Manager



MINERALS PROCESSING AND ENVIRONMENTAL LABORATORIES, INC.

STATIC TEST

FOR

Arimetco Inc.
102 Burch Drive
Yerington, NV 89447

October 2, 1991

Sample I.D.: VLT		
		Units of Measure
otal Sulfur (as S)	0.08	%
yritic Sulfur (as S)	0.01	%
ulfur, Unidentified (as S)	-0.01	%
ulfate, Sulfur (%)	0.08	%
PP/Peroxide (as S)	-0.01	%
otal Sulfur	2.5	(Tons CaCO3/Kt)
yritic Sulfur	0.3	(Tons CaCO3/Kt)
PP/Peroxide	-0.1	(Tons CaCO3/Kt)
cid Neutralizing Potential	7.5	(Tons CaCO3/Kt)

Wayne Colwell

ne M. Colwell
eral Manager